MOTORIZED TURRET

INSTALLATION INSTRUCTIONS

FOR MV-7, MV-10, MV-15
WAFER INSPECTION STATIONS

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MOTORIZED TURRET INSTALLATION INSTRUCTIONS

MV-7, MV-10, MV-15

A. Check Parts Received

1. Prior to installation, check parts received to the following parts list:

PARTS LIST

DESCRIPTION	PART NUMBER	QUANTITY
Motorized Turret Assembly	01-07008-00 (All Brightfield systems) 01-07009-00 (All Darkfield systems)	1 each
Motorized Turret PCB Assembly	03-07485-00 (All Brightfield systems) 03-07486-00 (All Darkfield systems)	1 each
Keypad Assembly	01-07011-00 (Standard keypad) 01-07010-00 (Keypad for DN10 terminal)	1 each
Turret Extension Harness	03-06925-00 (MV-7) 03-06926-00 (MV-10) 03-07006-00 (MV-15)	1 each
Power Cable Assembly	03-06928-00 (MV-7) 03-06929-00 (MV-10) 03-07007-00 (MV-15)	1 each
Autofocus Cable Replacement Assembly	03-06931-00 (MV-7) 03-06932-00 (MV-10) N/A (MV-15)	1 each
Control Board-to-Turret PCB Cable Assembly Interconnect Board-to-Turret PCB Cable Assembly	03-06934-00 (MV-7) 03-06935-00 (MV-10) 03-07012-00 (MV-15)	1 each
Keypad-to-Turret PCB Harness Assembly	03-07254-00 (MV-7) 03-07004-00 (MV-10) 03-07005-00 (MV-15)	1 each
Turret PCB Mount	15-06956-00 (MV-7, MV-10, MV-15)	1 each

DESCRIPTION	PART NUMBER	QUANTITY
Label, Motorized Turret Keypad	15-06961-00 (MV-7, MV-10, MV-15)	1 each
Center Cover	15-07013-00 (MV-10) N/A (MV-7, MV-15)	1 each
Velcro Strip (LK TP 400)	50-03408-00 (MV-7, MV-10, MV-15)	3 each
Velcro Strip (LK TP 170)	50-03409-00 (MV-7, MV-10, MV-15)	3 each
Objective Plug	15-07003-00 (All Brightfield systems) 15-06053-00 (All Darkfield systems)	5 each 4 each

NOTE: Objective shims and tie wraps for electrical wires are also included as part of the installation package.

****
CAUTION: TURN OFF ALL POWER TO THE SYSTEM BEFORE PROCEEDING.
****

B. Remove Existing Nosepiece Turret (See Figure B-1)

1. Unscrew and remove the Microscope objectives.

****
CAUTION: Be sure to place the removed objectives on the threaded end rather than the lens end.
****

2. Loosen the three (3) cap screws on the sides and back of the Microscope housing. When they are approximately half way out, the Nosepiece Turret will be released.

3. Remove the Turret through the front of the housing.

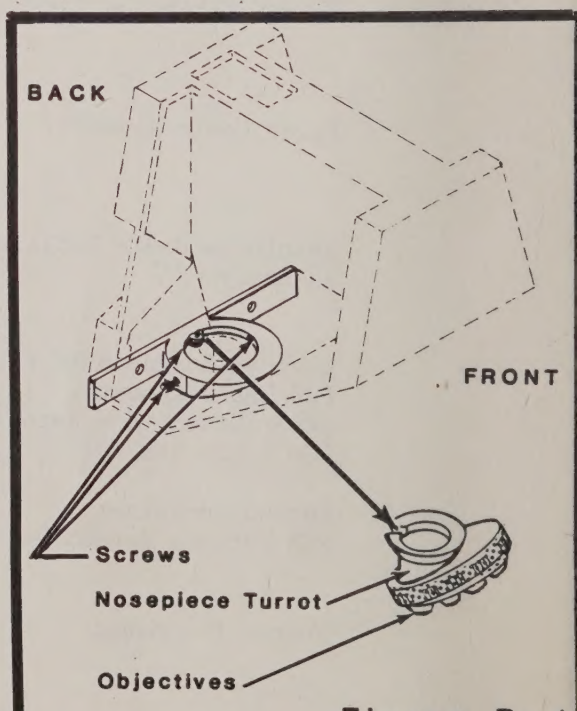

Figure B-1

C. Install the Motorized Turret and Objectives (See Figure C-1)

1. Install the Motorized Turret into the position formerly occupied by the Nosepiece Turret.

NOTE: To be properly seated, the slotted edge of the Turret Mounting Head must fit between the back cap screw washer and the Microscope housing so that the threads on the cap screw pass through the slot in the mounting head.

2. Tighten the three (3) cap screws that hold the turret in position.

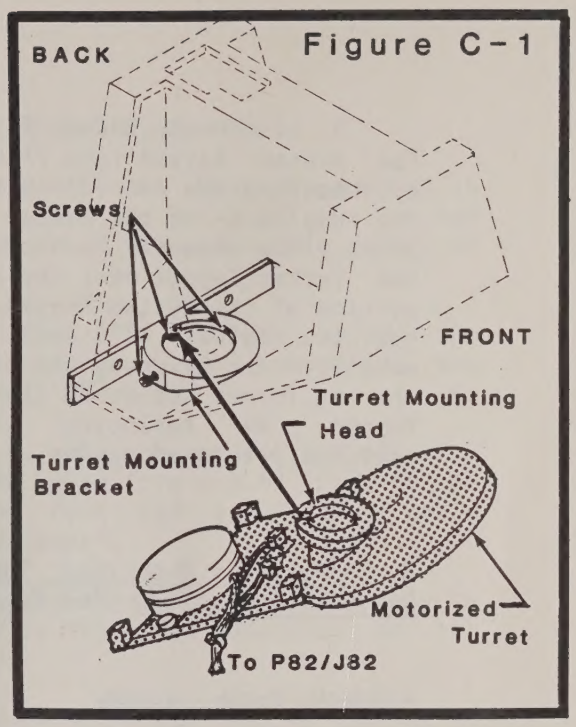

Figure C-1

D. Mount the Turret PCB and Assemble the Turret Keypad

1. Assemble the Turret PCB to the Turret PCB Mount using four (4) cap screws (See Figure D-1).

2. Attach the Velcro Strips on the Turret PCB Mount (3 places) to matching strips placed on the Loader Shield (MV-7, MV-15) or Transfer Assembly Support Bracket (MV-10) and Chassis Base (See MV-7, MV-10 and MV-15 electrical installation drawings for location).

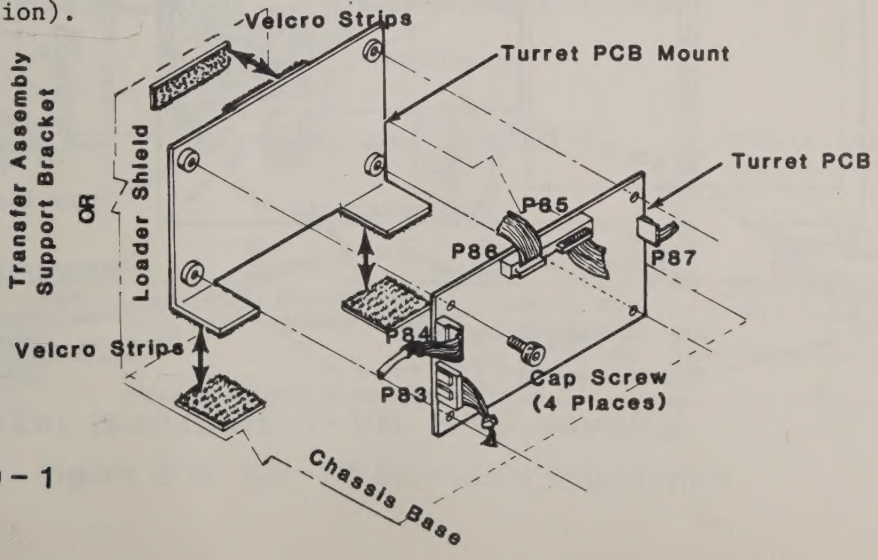

Figure D-1

3. Attach the Turret Keypad to the System Keypad (see Figure D-2) by: removing the two (2) screws at the top/back of the System Keypad; placing the extended back plate of the Turret Keypad over the top/back portion of the System Keypad so that the two holes on each keypad assembly are aligned; and attaching the the Turret Keypad to the System Keypad by replacing the two previously-removed screws.

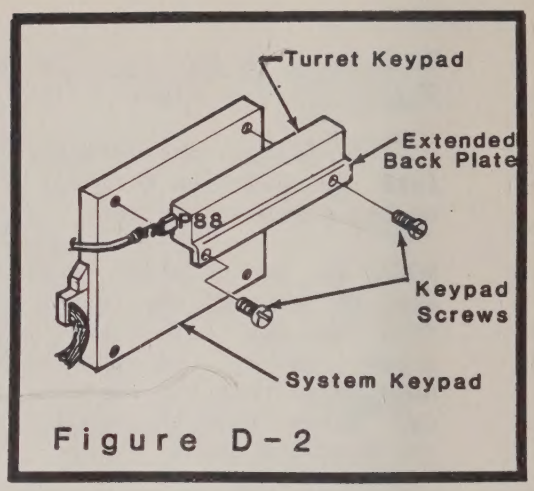

Figure D-2

E. Connect the Motorized Turret to the MV-7 and MV-10 Wafer Inspection Stations (See Figures E-1 and E-2)

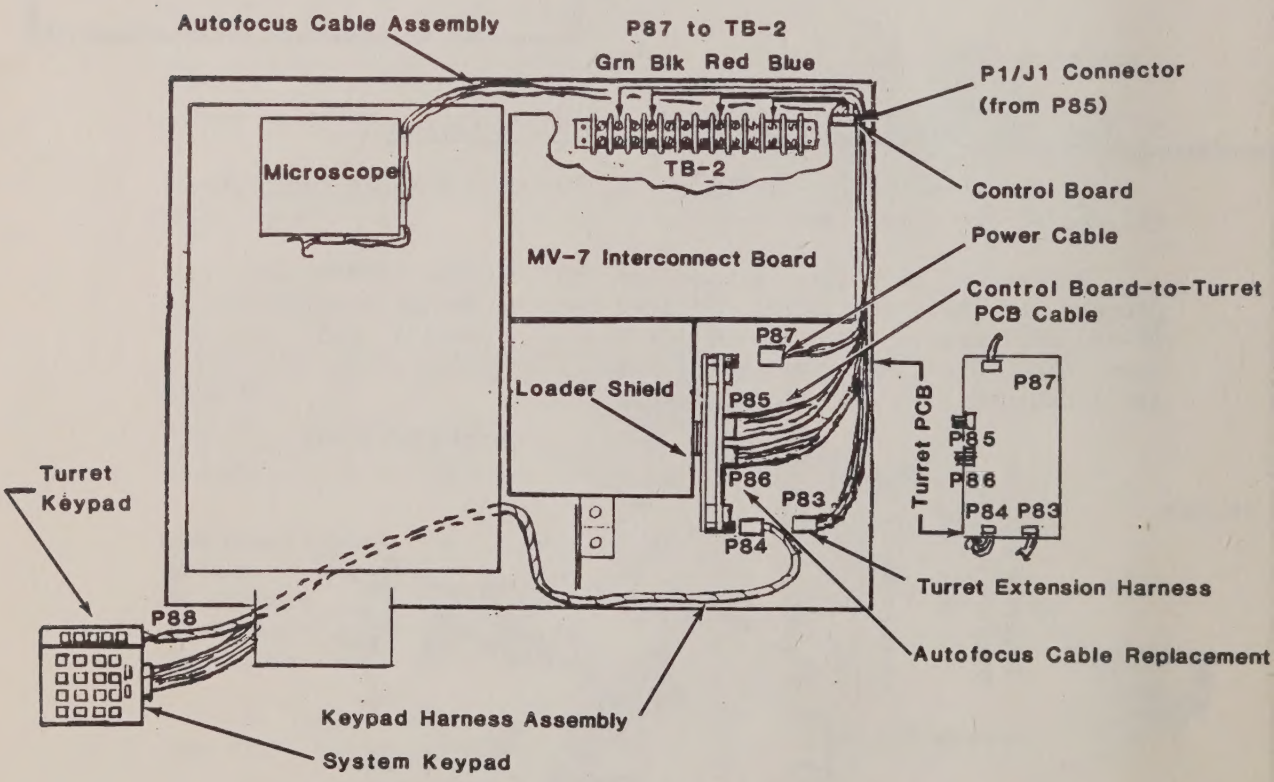

Figure E-1 MV-7 Electrical Installation

1. Remove the existing Autofocus Cable assembly.

2. Install the replacement Autofocus Cable by routing it along the side of the Microscope, across the back of the system and forward to the Turret PCB. Connect the cable (P1) to pin 86 (P86) on the Turret PCB Assembly.

NOTE: The replacement Autofocus Cable (P1) reaches beyond the existing P1/J1 Control Board Autofocus Cable connection and extends to pin 86 (P86) on the Turret PCB.

3. Remove the Control Board to allow access for installation of the Power Cable. Route the Power Cable from pin 87 (P87) on the Turret PCB to TB-2 and connect the four (4) color-coded cable leads as shown. Replace the Control Board.

4. Connect the Control Board-to-Turret PCB Cable Assembly to pin 85 (P85) on the Turret PCB and to the P1/J1 connector on the Control Board.

5. Connect the Turret Keypad Cable (at P88) by routing it under the base and up through the access hole in the chassis. Then connect the cable to pin 84 (P84) on the Turret PCB Assembly.

6. Connect the Turret Extension Harness to pin 83 (P83) on the Turret PCB assembly and to the P82/J82 connector (see Figure C-1) from the Motorized Turret Assembly.

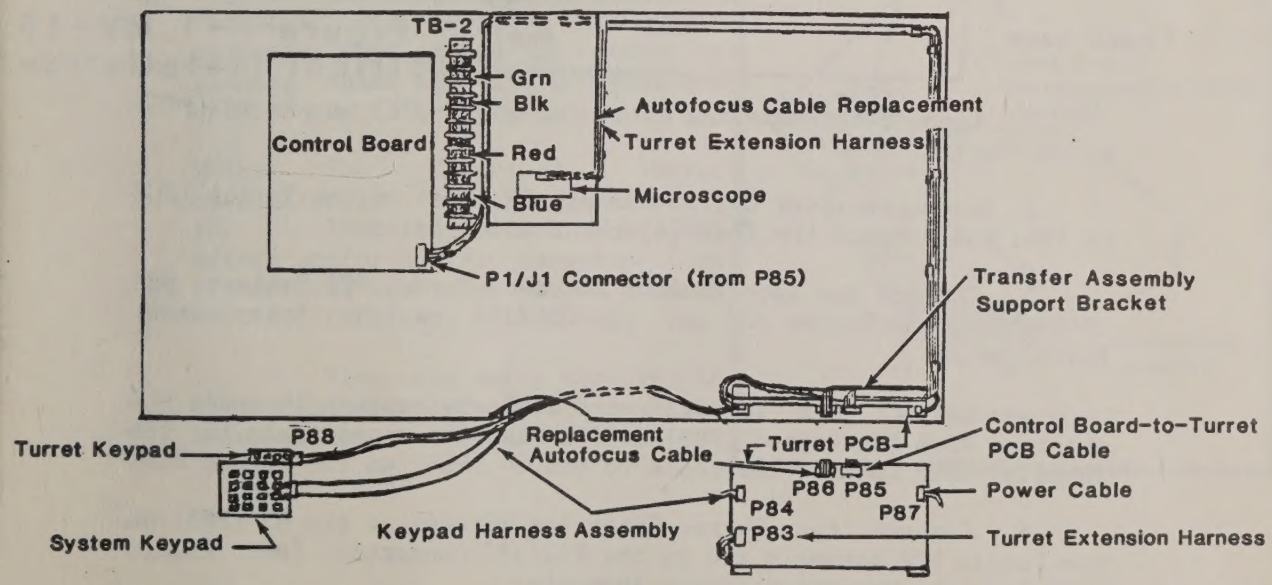

Figure E-2 MV-10 Electrical Installation

F. Install the Motorized Turret on an MV-15 Programmable Wafer Inspection Station (See Figure F-1)

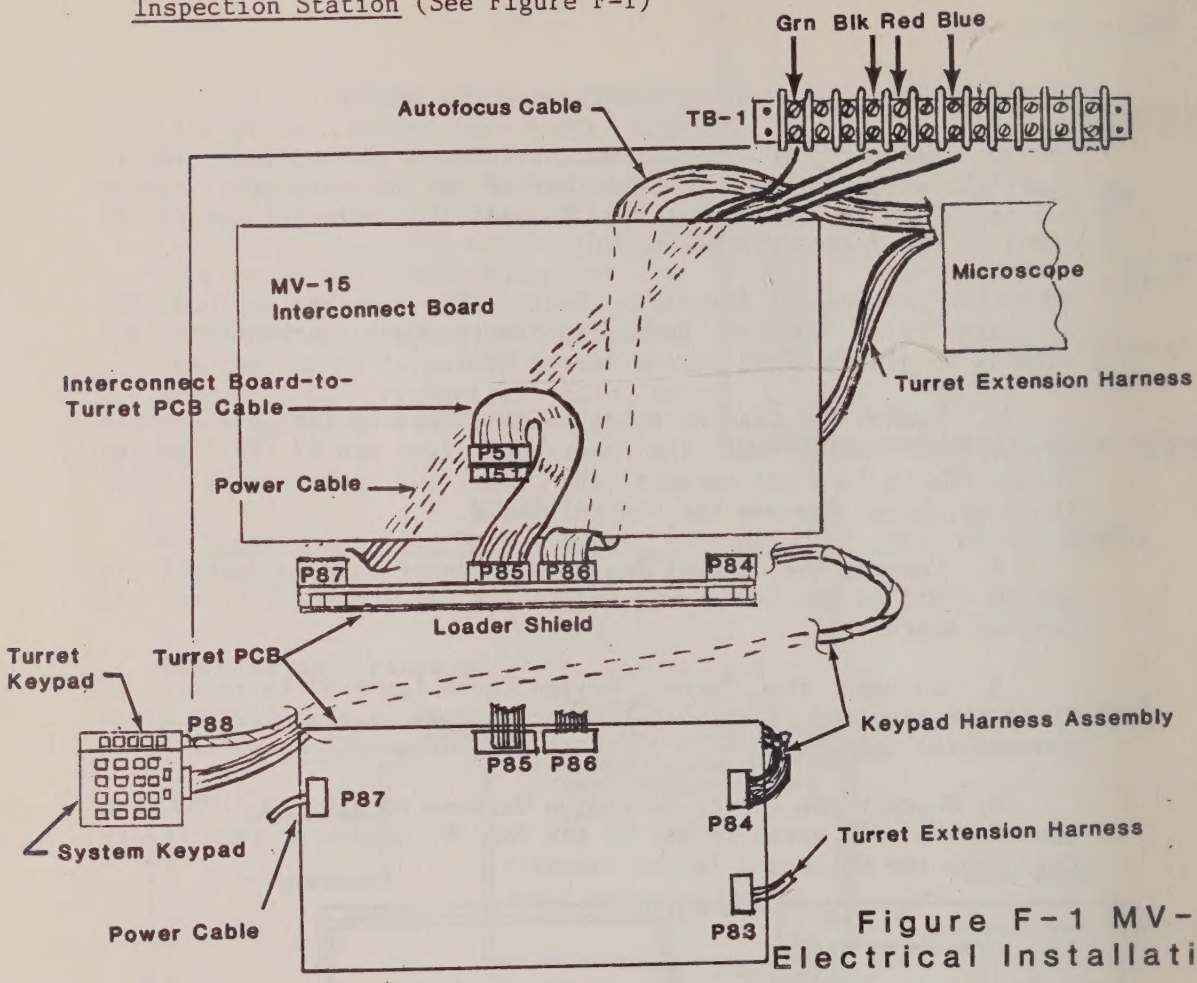

Figure F-1 MV-15
Electrical Installation

1. Connect the existing Autofocus Cable (P1) to pin 86 (P86) on the Turret PCB.

2. Route the Power Cable from pin 87 (P87) on the Turret PCB to TB-1 and connect the four (4) color-coded leads.

3. Connect the Interconnect Board-to-Turret PCB Cable to pin 85 (P85) on the Turret PCB and to P51/J51 on the Interconnect Board.

4. Connect the Turret Keypad Cable by routing it under the the base from the keypad (P88) and through the access hole in the chassis. Then connect the cable to pin 84 (P84) on the Turret PCB.

5. Connect the Turret Extension harness to pin 83 (P83) on the Turret PCB Assembly and to the P82/J82 connector (see Figure C-1) from the Motorized Turret Assembly.

G. Install the Microscope Objectives

1. Power up the system to rotate the Turret into "home" position.

2. Place a wafer on the inspection stage.

3. Install the Microscope objective with the lowest magnification power into the viewing position on the Turret. Install the remaining objectives in sequential order from right to left (as viewed by the operator) beginning with the lowest power objective and moving to the highest power objective. The 100X objective, when present, must always be positioned at the immediate left of the lowest power objective.

4. Install objective plugs in any unused positions on the Turret.

5. Remove the covers from the keys on the Turret Keypad. Starting at the left side of the keypad, label the keytops in sequential order, from the lowest to the highest power objective. Place the 100X objective label, if required, on the 4th key from the left for darkfield systems and on the 5th key for brightfield systems, even though unused keys may result.

6. Manually focus the highest power objective and, while autofocus is disabled, rotate each remaining objective into the viewing position. Parfocal any rotated microscope objective that is not in focus by placing shims over its threaded end until focus is achieved.

NOTE: The Motorized Turret automatically reduces focus speed for a 100X objective. The 100X switch and/or the #10 connector (see Figure G-1) used for that purpose should, therefore, be removed.

7. View the wafer through the microscope eyepieces to ensure even illumination (see Figure G-1).

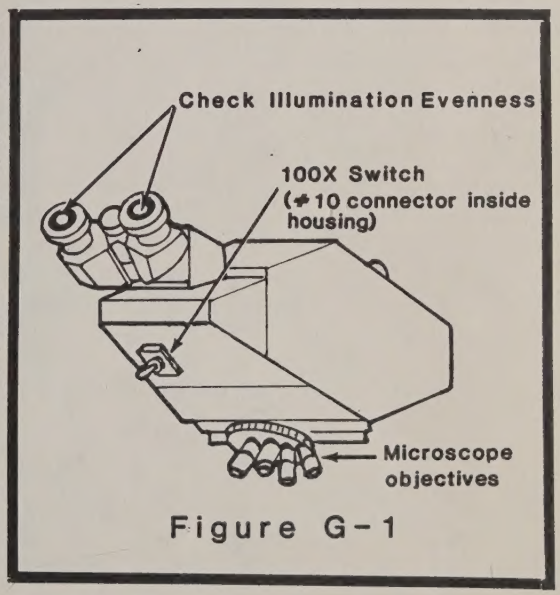

Figure G-1

H. Adjust Wafer Illumination and Belt Tension

1. If the wafer is unevenly illuminated, the position of the illuminator lamp may be adjusted (see Figure H-1). Laterally adjust lamp position by turning the black adjustment knob on the outside of the lamp housing. Vertically adjust lamp position by loosening the thumb screw at the top of the lamp housing and rotating the outer rim of the cylindrical lamp holder. Tighten the thumb screw after the vertical adjustment has been completed.

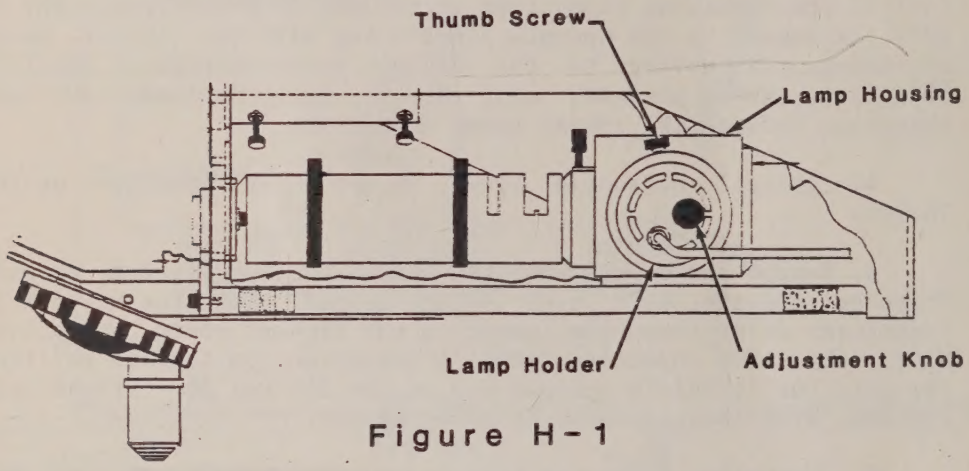

Figure H-1

2. Check belt tension on the Motorized Turret Assembly (see Figure H-2) to ensure that the belt is tight enough so that the teeth on the belt engage, but do not overide, the teeth on the Turret. Also check to ensure that belt tension is sufficient that the wafer is maintained in the same approximate visual position each time the turret is moved.

Adjust belt tension, if necessary, by loosening the two motor screws and moving the motor. Tighten the belt by moving the motor away from the Turret. Loosen the belt by moving the motor toward the Turret.

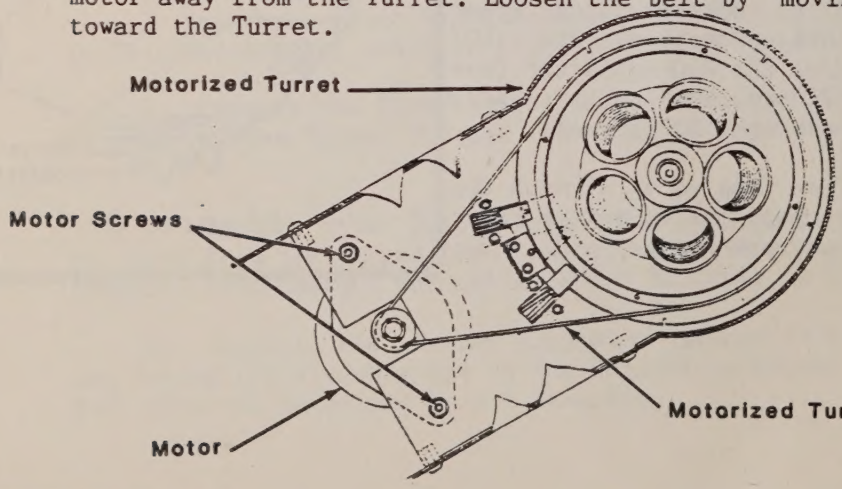

Figure H-2

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